

The Knoll at Middlebury College: Food & Garden Educator's Report for 2018

Overview

This year marked a transition at the Knoll as long-time Food & Garden educator Jay Leshinsky retired in November 2017. Jay's vision for the gardens, wisdom, and spirit of relationship have left an indelible mark on this special place and its people. Megan Osterhout Brakeley '06 stepped into the role to help steward the gardens and programming at the Knoll in April of 2018, in close consult with former garden educators Jay Leshinsky and Sophie Esser Calvi.

Internships

Through the generous support of alumni gifts, earned income from the farm's produce sales, and support from the College (including a partnership with the VT FoodWorks program), the Knoll was able to offer 15-week summer internships to four undergraduate students: Raine Ellison '19, Thibault Lannoy '20, Theo Henderson '20, and Micah Raymond '21. Thanks to generous support from the Center for Careers and Internships, US resident summer interns received housing support for the FoodWorks portion of their summer internships.

We also were fortunate to be able to hire Pratt Olson '20.5, Rebecca Strull '20.5, and Myles Stokowski '21 as spring/fall interns.



Interns and volunteers contribute to, and learn from, the Knoll-- and each other.

Educational Garden

The early spring saw cold and wet conditions. Then, like a switch flicked in early May, we shifted gears to summer mode, and it turned out to be one of the hottest and driest June and Julys on record. Just north of Addison County, official drought conditions were recorded for these months. Needless to say, as in 2016, our biggest challenge turned out to be drought. From May 1st through September 1st total precipitation was less than 11.25" (compared with 10.33" in 2016 during this time period). The first week in July set record high temperatures with four of the first five days of the month at or above 90 degrees F. By the autumnal equinox we saw a return to regular precipitation with a few large rain events and typical fall temperatures. Last frost date was April 23rd with two nights at 26 degrees F, then one night on May 12th at 32 degrees F. First frost was October 17th, with the first hard freeze October 26th at 24 degrees F.

Our core group of crops we sell to Midd Dining (Swiss chard, kale, tomatoes, head lettuce, collards and basil) had mixed success. The tomatoes and other heat lovers were very productive,

while our lettuce production was so far below norm and we greatly minimized successions due to anticipated heat stress. Our winter squash harvest for HOPE proved reliable with an abundant, if early, harvest despite large populations of striped cucumber beetle.

Given the heat and drought stress of many crops, we saw increased insect pressure and increased imperative to heavily mulch and water crops. Of note was a large localized infestation of the new-to-our-region Leek Moth, *Acrolepiopsis assectella*, that impacted allia, including onion, garlic, and chive crops. Come spring, time will tell if the damage wrought on the scapes and leek foliage impacted our seed crops viability for the 2019 harvest.



Solanacea thrived in the heat of this year's summer season; the inimitable 'Sungold' with abundant fruit set.

As a transition year, three beds (Hamilton, Webster, and the greenhouse) were rested in rotations of mowed cover crop (principally an oat/field pea mix transitioned to winter rye).



Oats and field pea cover crop mix; a September harvest headed to Midd Dining.

In May, five hybrid poplar trees were removed from the northern rise of the Knoll due to winter damage and having exceeding their expected lifespan. This significantly changed the canopy

over and near the garden shed, but as poplars coppice, most resprouted. The downed trees served as additional woody material to supplement an older Hugulkultur-style mound, as well as build a new Hugel mound.



Poplar stump-sprouting to form coppiced growth; building a new hugel mound from the poplar.

We grew at least 40 other crops for sales to smaller college venues. These included Weybridge House-- produce was used fresh or preserved for winter use-- and to the Dolci student organization for use in a dinner featuring local food. We also sold a small quantity of special items to Otter Creek Bakery in keeping with a long-standing relationship with the Woods.

Our goal is to grow a mix of diversified crops so the interns can learn how to grow many different types of vegetables, herbs, flowers, and fruits. Given the educator transition, we principally focused on fall crop production and the bulk of the garden was not planted until mid June. We also grew many varieties of flowers, including wildflowers. We grew them predominantly for pollinator and beneficial insect food, but we also grew several varieties of flowers for cutting and sale to Midd Dining for catering and event use. The campus community was invited to Pick-Your-Own in the flower beds, and the garden saw a steady stream of visitors for this reason.



'Sabrevois' grapes thrived this summer; an early summer bouquet backlit by the setting sun.

Special thanks goes to long-time garden friend John Derick for his assistance with the educator transition, as well as infrastructure maintenance of the Knoll. We also wish to thank our colleagues in Facilities, Dining Services, Events Management, Student Activities, Public Safety, and at the Midd Recycling Facility for their support with trash pickups and compost delivery.



Surveying the summer harvest bounty; deadheading flowers.

Community Involvement

HOPE: As in past years, we arranged with HOPE to grow specific crops to be donated to the HOPE food shelf in Middlebury. This year we brought HOPE green beans, garlic, carrots, and butternut squash for their Holiday baskets. Last year (2017) we donated 799 lbs of produce (565 of which were winter squash) and we contributed similarly this year.

Cornwall Garden Days: The combined 3rd and 4th grade class from Cornwall Elementary visited the garden for five consecutive weeks starting September 5th, running through October 3rd. This year the class had 21 students and was organized by teacher Mindy Harvey '13. During these full day visits, the class would volunteer for about an hour of garden work, hosted by Sophie Esser Calvi, Megan Brakeley, volunteer Kira Waldman '20, and occasionally interns. The class also met with a host of visitors organized by Ms. Harvey, including Marc Lapin.



Cornwall Elementary 3rd and 4th graders harvest, sort, and wash carrots.

The *Farm to Early Childhood Ed* group welcomed over 20 childcare providers from Mary Johnson Children's Center for a garden tour and activities. On a separate occasion, the grant organizers (representing organizations such as Shelburne Farms, Farm to School Network, NOFA-VT, Mary Johnson Children's Center, College Street Children's Center and others,) also met at the Knoll for their culminating meeting to share a potluck dinner.

The *Middlebury Studio School* held a Plein Air drawing class in late July.

ACORN Addison County Relocalization Network held their annual board meeting in the outdoor classroom at the Knoll in mid-July.

Addison Central Teens (ACT) and HOPE: Summer interns welcomed and worked side by side for a morning with a group of teens and Gleaning Coordinator Lily Bradburn and Privilege & Poverty/FoodWorks Intern Nora Peachin '21. The middle- and high-schoolers attending the week-long "Farm to Teen" Summer Adventure Camp also visited other Addison County organizations and farms. Together with Knoll summer interns, the group harvested 33 pounds of green beans to donate to HOPE. Interns guided campers on taste testing tours and much valuable conversation was shared over the bean rows.



Alumni Victor Filpo '16 and Zoe Kaslow '15 co-led the Farm to Teen Summer Adventure Camp.

Students and teachers from *Weybridge Elementary's 3/4 combined classroom* met with Sophie Esser Calvi for an afternoon visit to explore the Knoll. This was organized as a part of Bekah White '19's student teaching semester in the 3rd and 4th grade combined classroom.

Intern field trips

Field trips provide an opportunity to see first-hand the diverse the type of crops grown by Vermont farmers. Each farm is also a unique business using different approaches to sustainability. This season we visited Golden Russet Farm, The Seiler Farm, Monument Farms Dairy, Firefly Fields, and Wild Roots Farm. Through interns' participation in the 8-week Food Works program, summer interns also visited Shelburne Farms, the Elmer Farm, Golden Well Sanctuary, and participated in a cheese tasting hosted by Yale College Professor Maria Trumpler. Holly Rippon-Butler, Land Access Program Director of the National Young Farmer's Coalition and owner/operator of Farmer's Cone Creamery joined us for a work morning, pizza, and conversation. When possible, we would incorporate volunteering at host farms to honor the reciprocity of business owners' generous time sharing.



Interns visiting the greenhouses at Golden Russet Farm in early spring; Yale College professor and LGBTQ Resources Director Maria Trumpler shares about her cheese making venture, Vermont Ayr, and guides a tasting of Addison County cheese with Food Works interns.

Events at the Farm (in Chronological Order)

Three spring *MCOF Pizza Dinners* welcomed students from across campus to the Knoll for hand-made wood-fired pizza from the oven.

The *Opening Volunteer Hours in April* welcomed Chris Keily for a tai chi demonstration and workshop; over 25 volunteers joined to help wake the garden back up from winter.

A “*First Year Sunset Soiree*” was organized by the members of the SGA First Year committee. Over 300 students came out to enjoy a sunset, snacks, and bonfire on May 6.

The *Middlebury College Alumni Association Board* visited for tours of the Knoll during their spring visit to campus on 5/11.

Staff Council Learning Lunch: some thirty staff members attended a pizza lunch and tours of the Knoll on May 9 as a part of the Learning Lunch series.



Jay leads a tour for Learning Lunch attendees.

The Muslim Students Association hosted an *Iftar* meal at the farm at the break of Ramadan in mid-September.

Retirement Celebration for Professor Helen Young: the Biology Department decked out the Knoll with white tablecloths and honey bee-themed décor for a pizza luncheon to celebrate Helen’s long career and many contributions to Middlebury and the biology community.

For *Reunion* in June the Knoll again hosted two days of open houses with tours for alumni. The wood fired pizza oven was cooking both days and we served pizza tastings. Over 100 alumni attended. Visitors explored the Knoll, walked the labyrinth, and spent time with the interns and Food & Garden educator. We shared in conversation about the production methods of our garden, events at the Knoll, and the interns’ experiences. In the many discussions between alumni visitors and current students is the opportunity to connect past and present generations of Middlebury College students.

The *Communications and Marketing Department* joined for a pizza lunch and tours as a part of their staff retreat in June.

The Knoll and *Sustainability Solutions Lab* summer interns met together for lunch at the Knoll.

Pizza lunch with Holly Rippon-Butler of the National Young Farmer’s Coalition: Holly joined us for lunch and to share about the advocacy and policy work of the NYFC.



Trained student interns operate the pizza oven; gathering to share in food and community.

FoodWorks interns and internship hosts gathered for a meal to close the summer program.

The *MiddView* summer team hosted an end-of-summer lunch.

The *MiddSafe Advocates* returned to campus early for training and made pizza at the Knoll.

Approximately 90 *First@Midd* participants and peer leaders watched the sunset, toured the gardens, and enjoyed a pizza dinner at the Knoll as a part of their early arrival and orientation.

A group of *International and Transfer Students* who came for early arrival held an event.

The Knoll hosted a full day of harvesting garden produce and baking flatbreads for two separate “Cooking and Baking”-themed *MiddView trips* for first year students on September 8. Interns helped first years harvest produce from the garden and form their own flatbreads.

An optional event for first years during *MiddView*, “Kombucha at the Knoll,” was relocated to main campus due to weather.

Fall Harvest Festival: The Knoll, the student organization MCOF, and the Middlebury Intercultural Leaders Coalition (MILC) co-hosted this year’s fall harvest festival. This year’s event saw perfect sunny fall weather and drew over 600 attendees for the Friday event. MILC

student organizations that participated included: RAISINS (Radical Asians), ASIA, Vietnamese Student Association, Food Club, Japanese Club, Project Pengyou, and MCOF.

Activities included preparing TangYuan (湯圓), a sweet, mochi-like Chinese dessert with sesame filling commonly served during the Mid-autumn festival, lantern making, taste tests of Knoll produce and honey, cider pressing (visitors pressed 11 bushels of apples with two borrowed cider presses), labyrinth walking, enjoying cider donuts, tasting pizza made by MCOF.



Photos courtesy John Schurer '21



Food Club guided a TangYuan (湯圓) demonstration; tasting honey and produce.



Photos courtesy Benjy Renton '21

Special thanks to Benjy Renton and John Schurer for sharing their photography from this event. More photos are available here:

*<https://www.flickr.com/photos/108803224@N05/sets/72157673952683358/with/44945854102/>
https://drive.google.com/drive/folders/1WvD5z81X_-q6xF12QFZ-DhSoAcJTSkxy*

Five *Restorative Practices circles* were scheduled to be hosted at the Knoll, most including wood-fired pizza dinner to follow the circle. Due to weather and low signups, none was held.

Fall Family Weekend: Many interested family members and alumni toured the Knoll. Former garden educator Jay Leshinsky generously shared his time in attending both days of FFW Open House. The Knoll offered sales of honey, t-shirts, and hand-designed seed packets harvested, stamped, and created by students Kendal Pittman '21.5 and Anna Ford '21.5. Dean of Spiritual and Religious Life Mark Orten welcomed families and introduced the labyrinth at the close of the Friday Open House.

The Scott Center for Religious and Spiritual Life interned sacred texts at the Knoll for a *Sacred Book Burial* event welcoming Torah Scribe Kevin Hale. Some twenty-five participants were in attendance and helped throw ceremonial shovelfuls of soil to lay the texts to rest and return to the earth.



Photo courtesy Ellen McKay

Hillel sponsored a Havdallah, Bonfire, and Pumpkin Carving event in late October.

Additional groups that hosted bonfires this year included:

- Sister to Sister student organization
- Ross Commons Council (once in spring, once in fall)
- MiddMayhem kickoff hosted by MCAB (canceled due to weather)
- Physics major/minor cohort
- Literature Club
- ENVS 401 end of semester potluck and bonfire
- Student Employment Office hosted two bonfires for summer employees
- German School
- Environmental Studies faculty colleagues
- MiddPlay acting troupe
- Rowing Team
- Posse group meeting.

Classes, Workshops, and Programming at the Knoll

The Knoll was host to many academic courses and rehearsals:

- Tomer Grossman of the Hebrew School brought his class to the Knoll for a tour and interactive student presentations practicing food and gardening vocabulary. The visit culminated with students hand-forming their own pita for baking in the wood fired oven and sharing a meal on August 9th.

- Environmental Studies (ENVS 112, Natural Science and the Environment) experiment with Marc Lapin and Kathy Doyle: We started a bed of fall crop broccoli to harvest and explore a potential relationship between application of Bt, cultivar, and crown mass. We hosted four laboratory sections in early October. Megan met with each class to introduce students to the Knoll and to help describe the methods of the experiment. (See photos in “Research” section.)
- Tracy Weston (Education Studies) hosted an Environmental Education course at the Knoll, using the various features of the site for 5+ class and lab periods.
- Karima Borni and a student dance group choreographed a special performance at the Knoll entitled “Fields of Reckoning: an Interspecies Dance” in late October. It featured equine, canine, and human performers, and was followed by a pizza dinner hosted by the student Environmental Student Advisory Committee.
- Additional class visits/tours included:
 - “Sociology of Food” (Sociology and Anthropology), Erica Morrell
 - “Introduction to Food Studies” (INTD), Molly Anderson
 - “Agroecology” (INTD), Molly Anderson
 - “Dirt Across Disciplines” (FYSE), Jessica L’Roe
 - “Positive Psychology” (Psychology) Michelle McCauley

Weekly Volunteer Hours in the garden resumed the first day of fall classes. In the spring, they were held: Mondays, Tuesdays, Wednesdays, and Fridays from 3-5pm (8 hours weekly). In the fall, Volunteer Hours were Monday – Friday, 3-5pm; and Tuesday, Wednesday, and Fridays from 8:30-10:30am (16 hours weekly). During this drop-in time, students and other community members were able to participate in the days’ garden tasks ranging the entire gamut of garden exploration and learning. Importantly, fall volunteers helped harvest and ensure commitments to our partners in Midd Dining. Since the Knoll is unelectrified and does not have refrigeration, all produce deliveries must be delivered immediately. In order to communicate with volunteers about the status of Volunteer Hours due to weather and other events, we established a “live” update system at go/knollhours (www.go.middlebury.edu/knollhours). This also shared the safe walking routes and helped announce upcoming Knoll events.

In September, we held our annual *Honey Harvest* with Ross Conrad of Dancing Bee Gardens. Over 30 students attended and helped trim wax cappings, spin the centrifuge, and bottle 50 pounds of honey in the Proctor Bake Shop. The honey is available for sale at the Middlebury Box Office. This year’s honey jar label was designed by Emma Brown ’21, one of the co-presidents of the MCOF student organization.



Ross Conrad guides a hands-on honey harvest workshop; student-designed labels grace the sweet final product.

Sophie Esser Calvi, associate director for global food and farm programs, and Mark Orten, dean of religious and spiritual life, hosted a weekly *Koru meditation class* at the Knoll during the open fall season.

Local artist Lisa Condino served as the Knoll's *Artist in Residence* and hosted four Friday afternoon workshops for art-making, acro-yoga, and sculpture with found materials.



Artist in Residence Lisa Condino guided weekly art making (photos courtesy John Schurer '21)

An interactive workshop hosting Yale College professor (and former Middlebury College Commons Dean) Maria Trumpler entitled “Recreating Paleolithic Flatbreads” was canceled due to weather, to be rescheduled in Spring '19.

Marc Lapin held a workshop entitled “Nurturing Resilience and Healing for Ourselves, Society, and Earth: An Evening of the Work that Reconnects” for students, faculty, and staff in mid-October.

In total there were over nine class visits, five series of recurring events, and some 70 individual events planned for use of the Knoll in the 2018 season.

Due in part to the overwhelming interest of campus organizations and departments, we established written protocols and information about hosting events at the Knoll. This also helps to streamline communication with our valued colleagues in Events Management, Public Safety, and Facilities to keep all abreast of happenings at the Knoll. The Event Hosting guidelines are linked through the Knoll's website and also available at go/knollevents (www.go.middlebury.edu/knollevents).

Research at the Knoll

For several years the organic farm has collaborated with faculty members to create research opportunities for students. As part of each course that uses the farm for research students have opportunities to put theory into practice. The research projects are generated by the focus of each course and needs of the farm to learn more about our unique physical location and microclimate. For the sixth consecutive year we hosted lab experiments for Marc Lapin's ES 112 class. The summer interns transplanted two broccoli varieties (Fiesta F1 and Arcadia F1). Half of each variety was treated with *Bacillus thuringiensis* (Bt) and the control was left untreated. Marc's class harvested and evaluated in early October, made measurements of yield for each treatment and evaluated other factors like cultivation practices.



Summer interns uncovering the broccoli transplants in preparation for Bt application and control; broccoli growing in the shadow of Bicentennial Hall (second photo courtesy Benjy Renton '21)



Four lab sections came to harvest broccoli to measure the effects of experimental treatments on two types of broccoli.

Maisie Anrod '19 (summer 2017 Knoll Intern) ran her senior Biology thesis experiment at the Knoll. We shared greenhouse space to house her tomatillo pots, and summer interns supported the experiment through pollen collection, daily inspection and watering of the tomatillos, and regular removal of confounding volunteer weed tomatillos on site. Selected from her draft abstract:

“I asked whether *Apis mellifera* (European Honeybee) would assist in the pollination of a rare plant species in its environment, as indicated by fruit set and seed set on a model plant species, *Physalis ixocarpa* (Tomatillo), as well as observed visits by *A. mellifera* foragers. My hypothesis was that *A. mellifera* would assist in pollination, resulting in significantly higher rates of fruit set and seed set in the experimental condition than in the negative control. Fruit set and seed set should peak around 40 meters from the hive, with fewer fruits and seeds in the nearest and farthest plots to the hive. If foragers are observed visiting the flowers, but fruit set does not occur, then I would conclude that they are not effectively transporting the pollen. This might warrant adjustments in the pollen dispenser.”



Preparing treatments and positive and negative controls.



Maisie's experiment examined the behavior of honeybees as pollinators for a rare plant species.



Experimental tomatillos began their life in the McCardell Bicentennial Hall greenhouse (Photo courtesy Jonathan Kemp)

Seed saving and seed trials

In contrast with past years, we ran very few seed trials in the garden this year. With a generous donation of seeds from Renee's Garden seed company we ran trials on new varieties of potatoes and rhubarb.



Trialing four varieties of potatoes also meant sampling, comparing, and noting their eating qualities.

We also grew garlic, shallots, black beans, cilantro, poppies, and a number of other open-pollinated, self-sowing annuals from Knoll saved seed, and saved Tohya edamame seed for next year.

*Prepared by Megan Brakeley, November 6, 2018
(All photos courtesy the author unless otherwise noted.)*